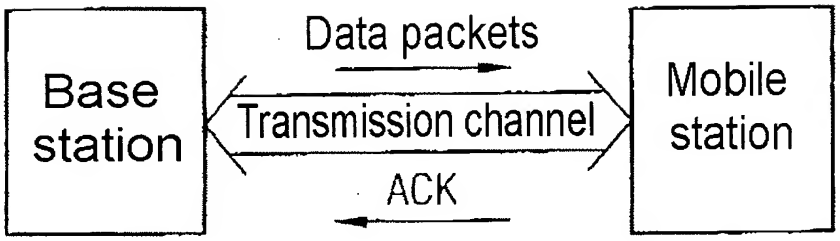
FIG 1
Prior art



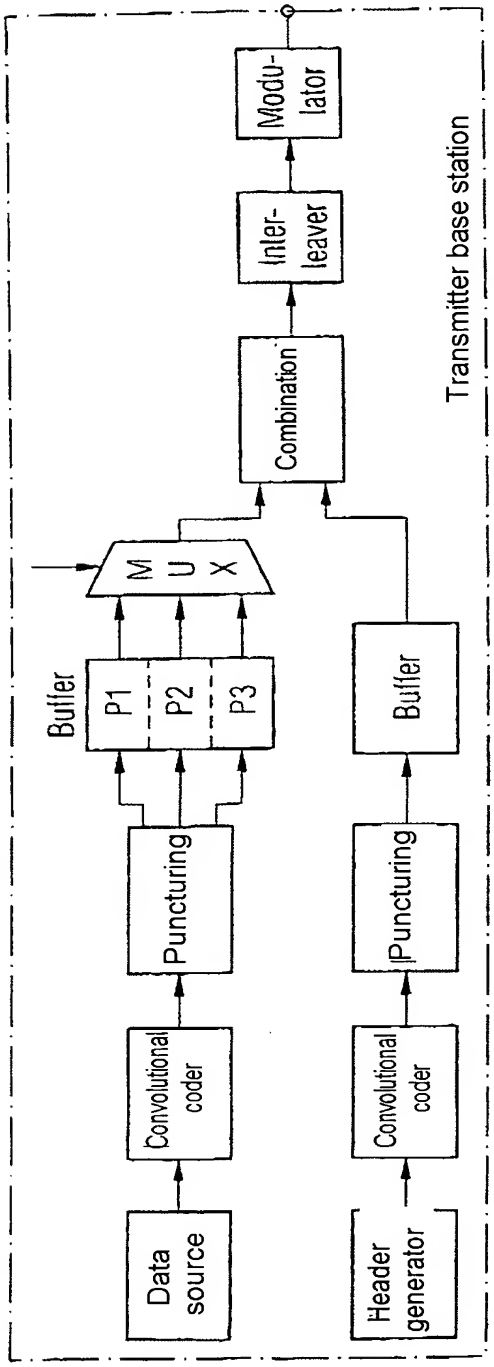


FIG 2
Prior art

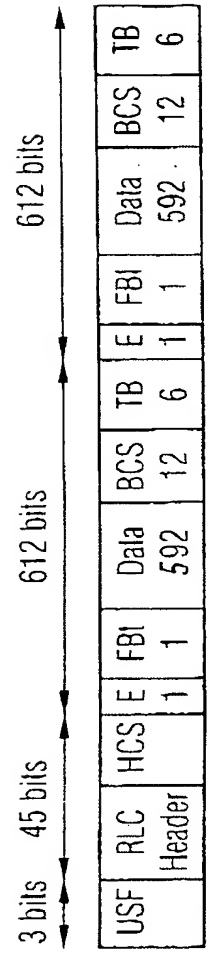


FIG 3
Prior art

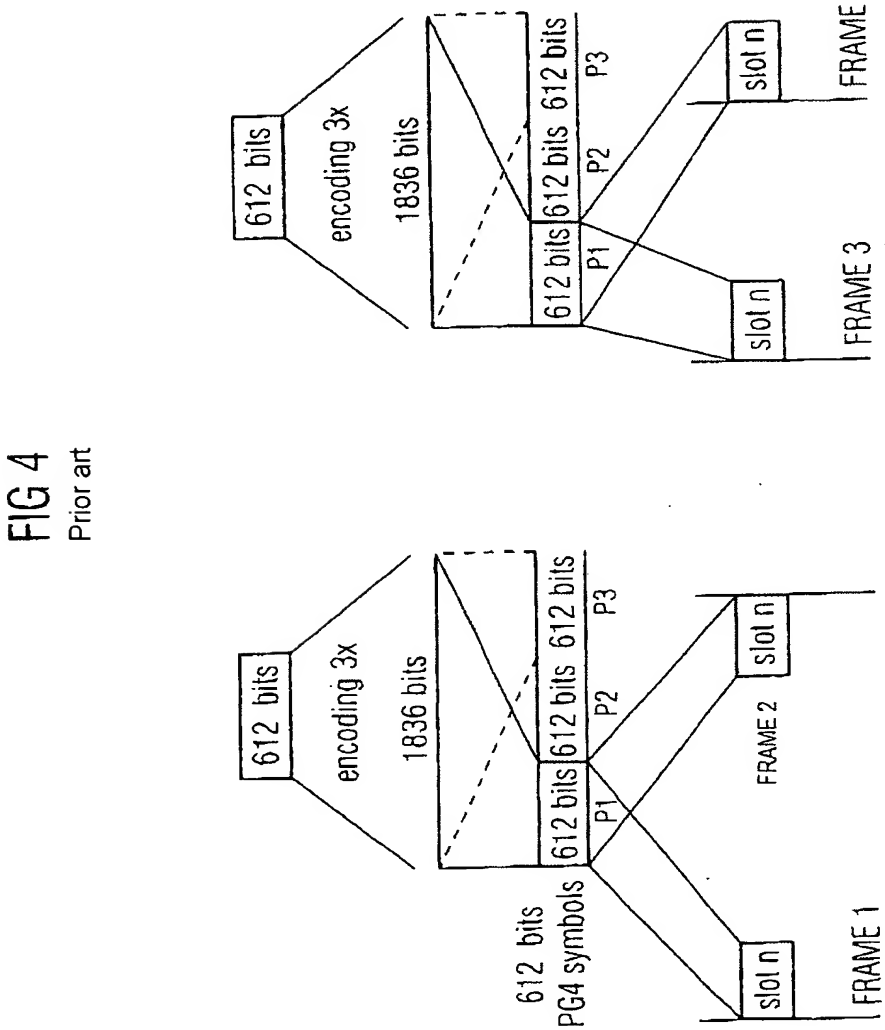


FIG 4
Prior art

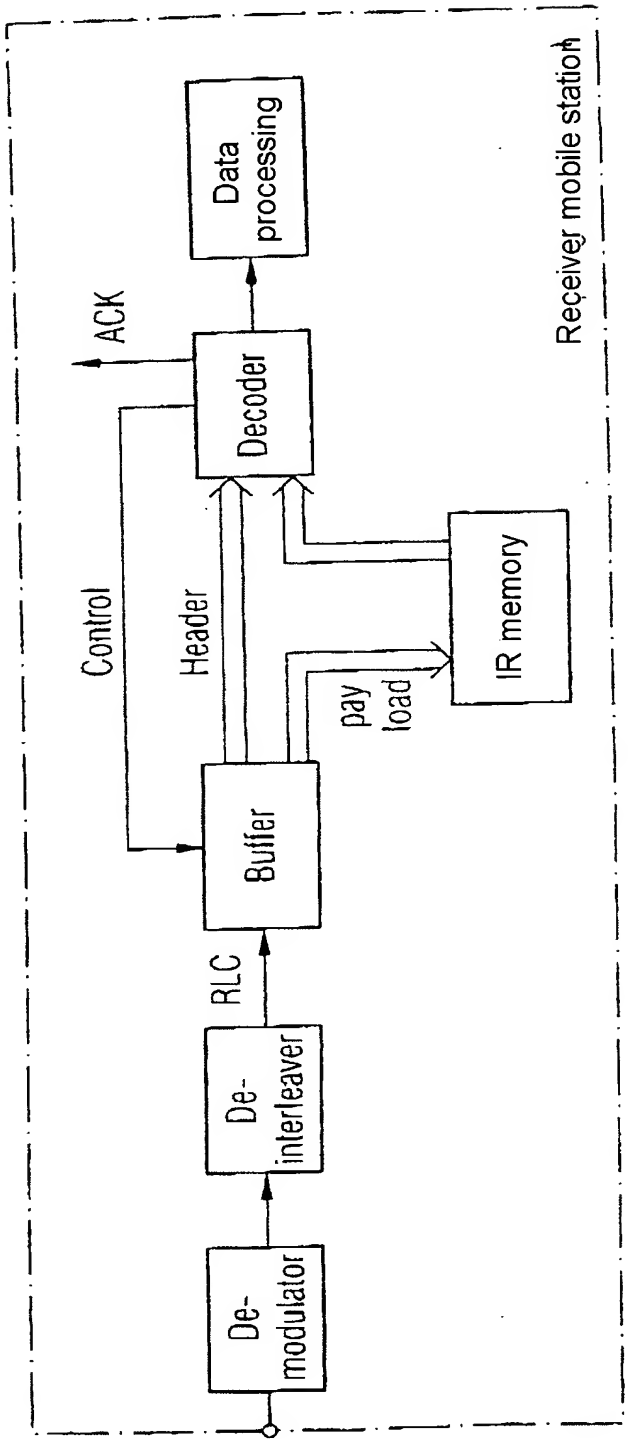


FIG 5
Prior art

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FIG 6
Prior art

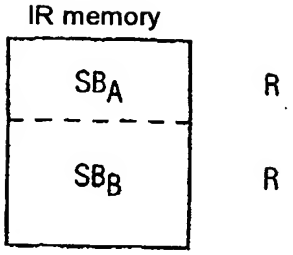


FIG 7
Prior art

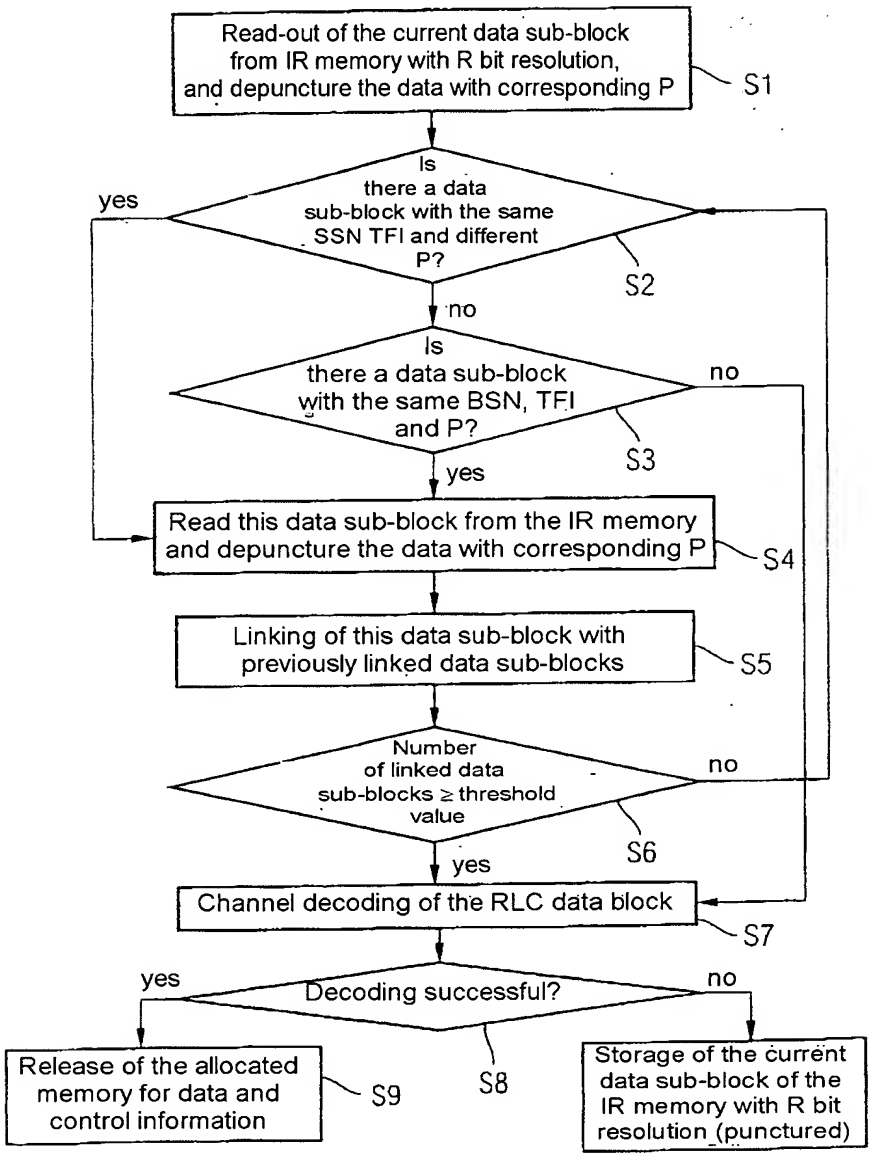


FIG 8

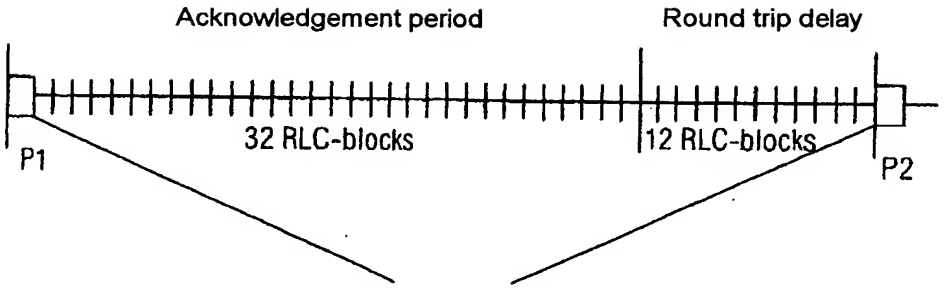

Acknowledgement period
Round trip delay
32 RLC-blocks
12 RLC-blocks
P1
P2

FIG 9

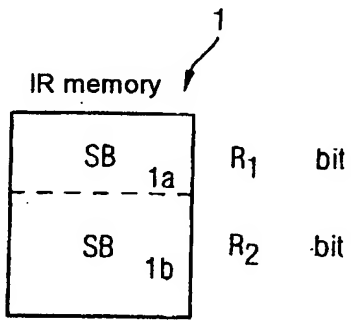

1
IR memory
SB
1a
R_1
bit
SB
1b
R_2
bit

FIG 10

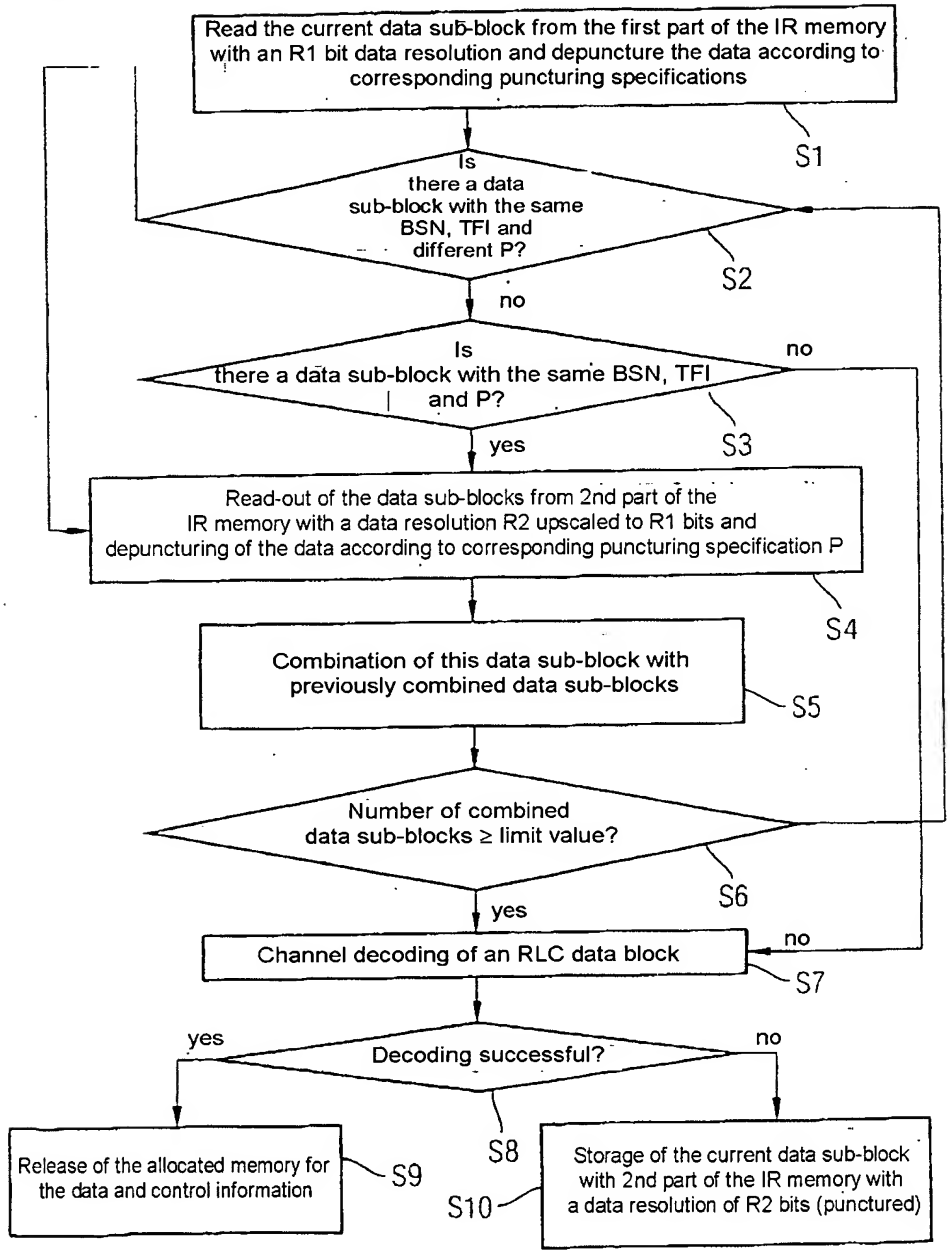

Read the current data sub-block from the first part of the IR memory with an R1 bit data resolution and depuncture the data according to corresponding puncturing specifications
S1
Is there a data sub-block with the same BSN, TFI and different P?
S2
no
Is there a data sub-block with the same BSN, TFI and P?
no
S3
yes
Read-out of the data sub-blocks from 2nd part of the IR memory with a data resolution R2 upscaled to R1 bits and depuncturing of the data according to corresponding puncturing specification P
S4
Combination of this data sub-block with previously combined data sub-blocks
S5
Number of combined data sub-blocks ≥ limit value?
S6
yes
Channel decoding of an RLC data block
no
S7
yes
Decoding successful?
no
S8
Release of the allocated memory for the data and control information
S9
S10
Storage of the current data sub-block with 2nd part of the IR memory with a data resolution of R2 bits (punctured)

FIG 11

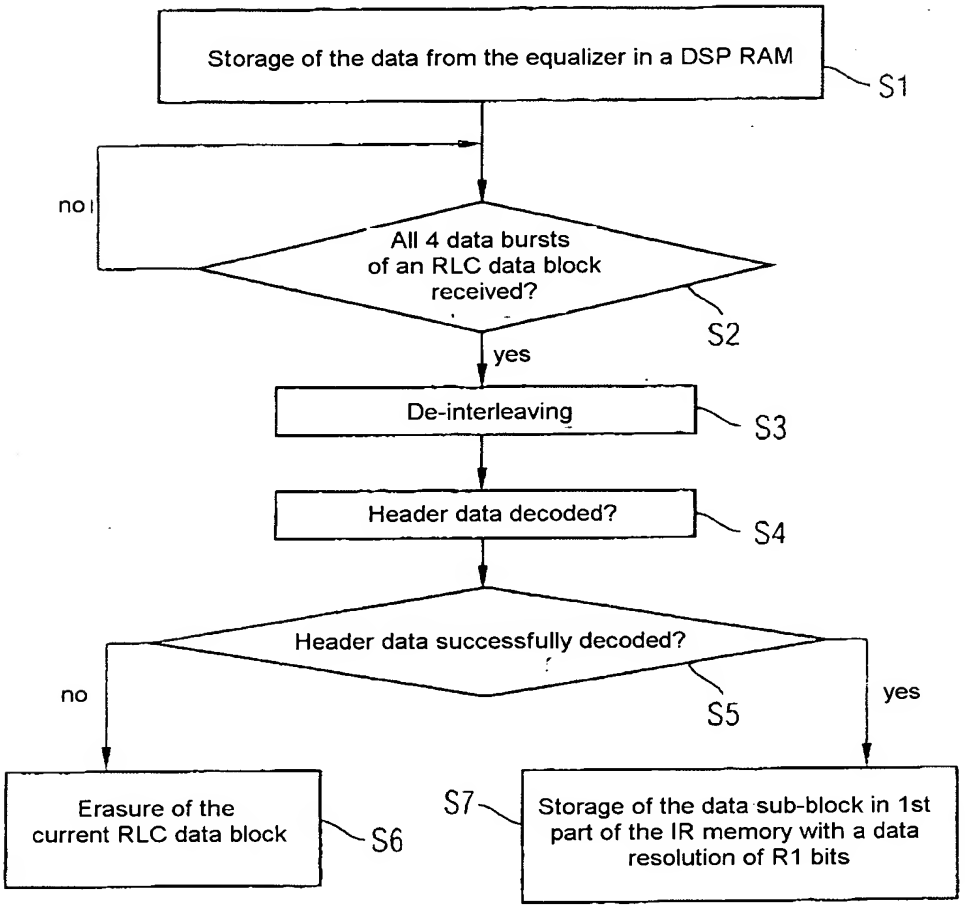

Storage of the data from the equalizer in a DSP RAM
S1
no
All 4 data bursts of an RLC data block received?
S2
yes
De-interleaving
S3
Header data decoded?
S4
Header data successfully decoded?
S5
no
yes
Erasure of the current RLC data block
S6
S7
Storage of the data sub-block in 1st part of the IR memory with a data resolution of R1 bits

FIG 12

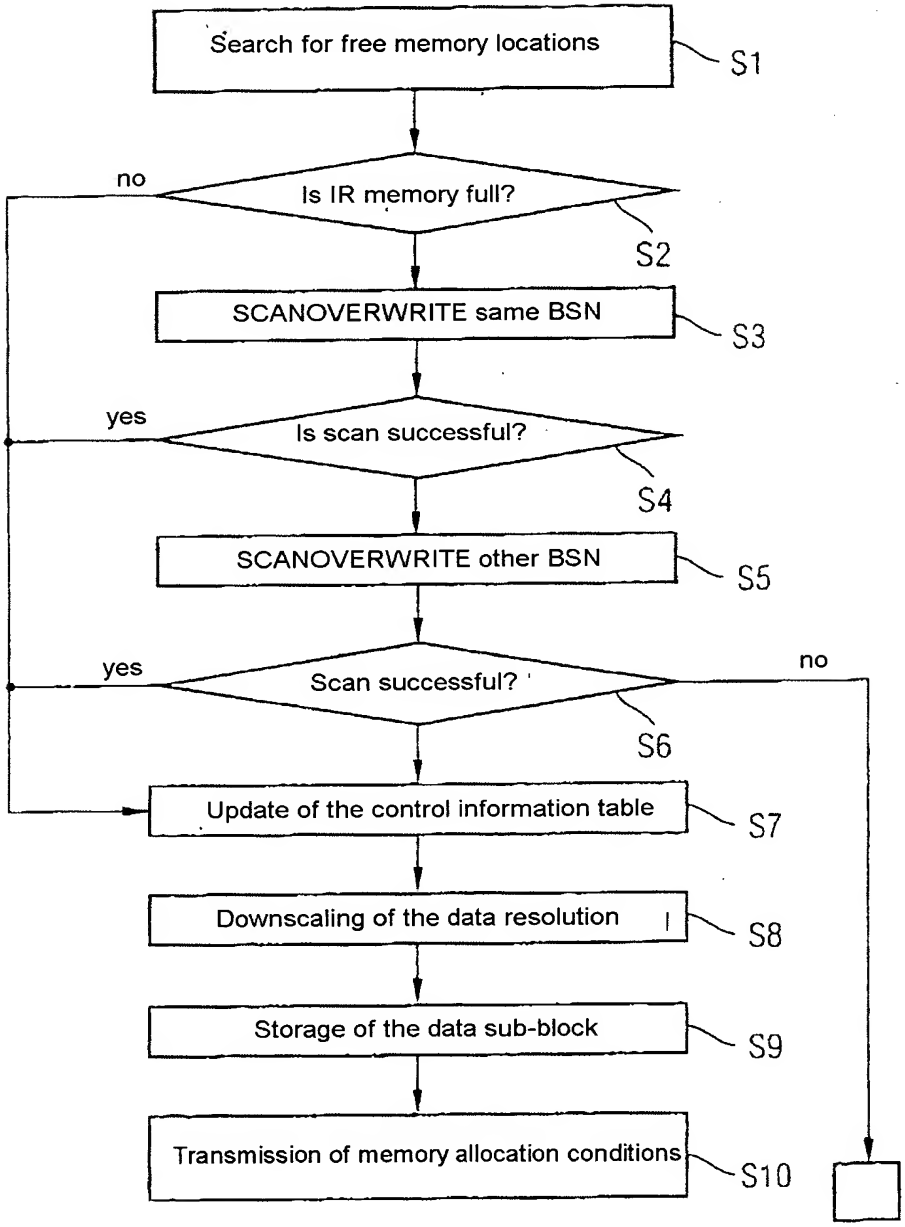

Search for free memory locations
S1
no
Is IR memory full?
S2
SCANOVERWRITE same BSN
S3
yes
Is scan successful?
S4
SCANOVERWRITE other BSN
S5
yes
Scan successful?
no
S6
Update of the control information table
S7
Downscaling of the data resolution
S8
Storage of the data sub-block
S9
Transmission of memory allocation conditions
S10

FIG 13

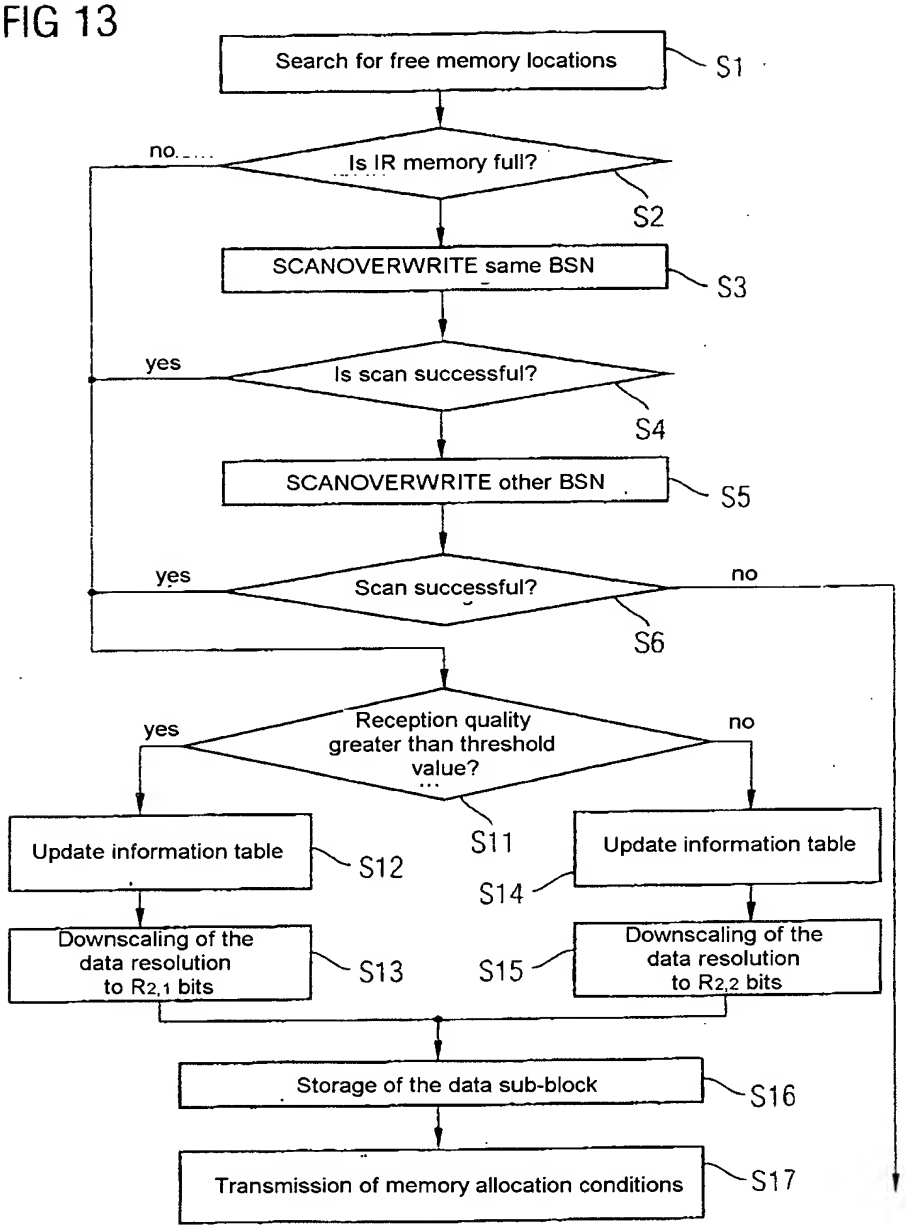

Search for free memory locations
S1
no
Is IR memory full?
S2
SCANOVERWRITE same BSN
S3
yes
Is scan successful?
S4
SCANOVERWRITE other BSN
S5
yes
Scan successful?
no
S6
yes
Reception quality greater than threshold value?
no
S11
Update information table
S12
Downscaling of the data resolution to R2,1 bits
S13
S14
Update information table
S15
Downscaling of the data resolution to R2,2 bits
Storage of the data sub-block
S16
Transmission of memory allocation conditions
S17

FIG 14

X_d	$R_2=3$		$R_2=2$	
[RLC-blocks]	Memory size [words]	Memory saving [%]	Memory size [words]	Memory saving [%]
8	21312	49.77375566	13952	67.11915535
12	22128	47.85067873	14768	65.19607843
16	22944	45.92760181	15584	63.27300151
20	23760	44.99452489	16400	61.34992459
24	24576	42.08144796	17216	59.42684766
28	25392	40.15837104	18032	57.50377074
32	26208	38.23529412	18848	55.58069382
36	27024	36.31221719	19664	53.65761689
40	27840	34.38914027	20480	51.73453997

Title: IR MEMORY
Applicant(s): Xiaofeng Wu
Attorney Docket No.: 1406/259
10/532355

FIG 15

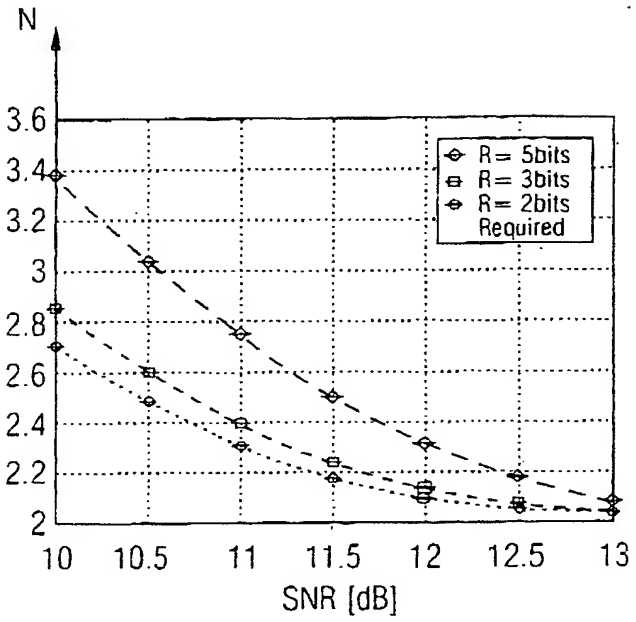
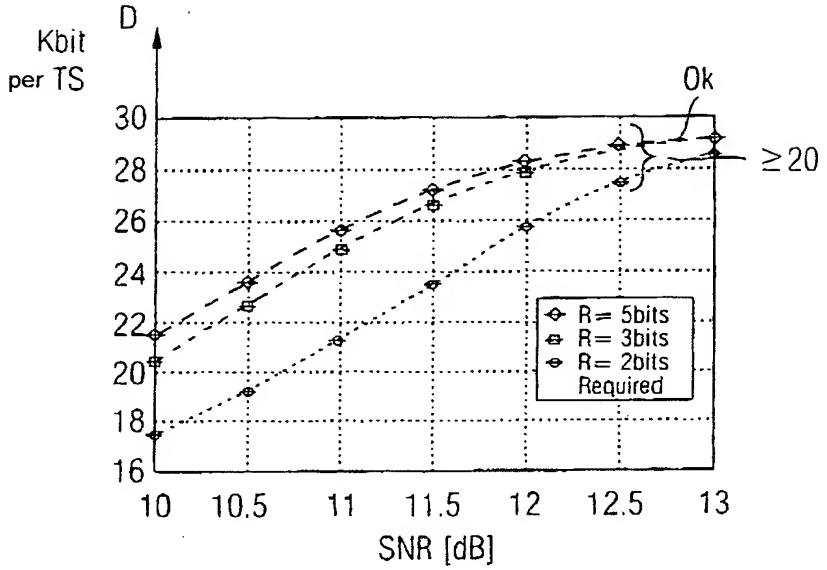


FIG 16



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